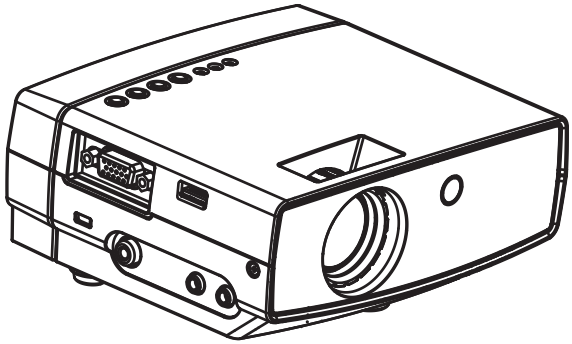
TOSHIBA

OWNER'S MANUAL

LED PROJECTOR

TDP-FF1A



SAFETY PRECAUTIONS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLT AGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

WARNING: Handling the cord on this product or cords associated with accessories sold with this product, will expose you to lead, a chemical known to the State of California to cause birth defects or other reproductive harm. ***Wash hands after handling.***

USA only

MODEL NAME: TDP-FF1 **USA only**

TRADE NAME: LED PROJECTOR MODEL NAME: TDP-FF1

FC Tested To Comply
With FCC Standards

FOR HOME OR OFFICE USE

FCC NOTICE: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RESPONSIBLE PARTY: TOSHIBA AMERICA INFORMATION SYSTEMS, INC.

9740 Irvine Blvd., Irvine, CA 92618-1697 U.S.A
Phone: (949) 583-3000

WARNING: Changes or modifications made to this equipment, not expressly approved by Toshiba, or parties authorized by Toshiba, could void the user's authority to operate the equipment.

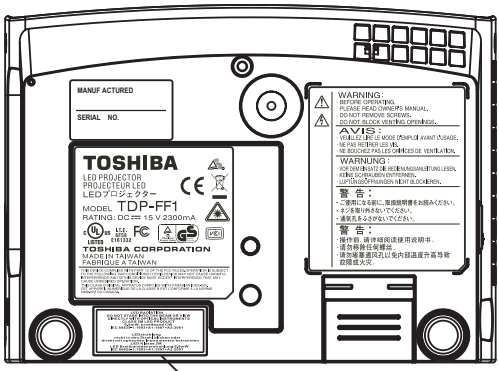
USA only

WARNING: This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

CANADA only

⚠ CAUTION

LED RADIATION DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. CLASS 2M LED PRODUCT.



IMPORTANT SAFETY INSTRUCTIONS

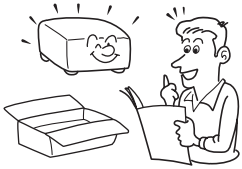
CAUTION: PLEASE READ AND OBSERVE ALL WARNINGS AND INSTRUCTIONS GIVEN IN THIS OWNER'S MANUAL AND THOSE MARKED ON THE UNIT. RETAIN THIS BOOKLET FOR FUTURE REFERENCE.

This set has been designed and manufactured to assure personal safety. Improper use can result in electric shock or fire hazard. The safeguards incorporated in this unit will protect you if you observe the following procedures for installation, use and servicing. This unit is fully transistorized and does not contain any parts that can be repaired by the user.

DO NOT REMOVE THE CABINET COVER, OR YOU MAY BE EXPOSED TO DANGEROUS VOLTAGE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.

1. Read Owner's Manual

After unpacking this product, read the owner's manual carefully, and follow all the operating and other instructions.



2. Power Sources

This product should be operated only from the power source indicated on the marking label.
If you are not sure of the type of power supply to your home, consult your product dealer or local power company.
For products intended to operate from battery power, or other sources, refer to the operating instructions.

3. Source of Light

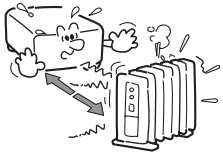
Do not look into the lens while the machine is on. The strong light from the len may cause damage to your eyes or sight.

4. Ventilation

Openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

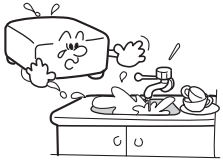
5. Heat

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.



6. Water and Moisture

Do not use this product near water. For example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool and the like.



7. Cleaning

Unplug this product from the outlet before cleaning. Use a soft cloth instead of liquid cleaners or aerosol cleaners for cleaning.

8. Power-Cord Protection

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

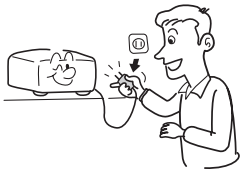
9. Overloading

Do not overload outlets; extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

IMPORTANT SAFETY INSTRUCTIONS (continued)

10. Lightning storms

For added protection for this product during storm, or when it is left unattended and unused for long periods of time, unplug it from the outlet. This will prevent damage to the product due to lightning and power-line surges. However, while it is thundering or lightning, do not touch the apparatus and any connected cable and/or equipment. This will prevent you from receiving the electric shock by an electric surge.

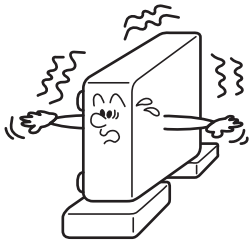


11. Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

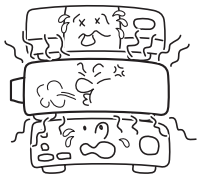
12. Do not place the product vertically

Do not use the product in the upright position to project the pictures at the ceiling, or any other vertical positions. It may fall down and be dangerous.



13. Stack Inhibited

Do not stack other equipment on this product or do not place this product on the other equipment. Top and bottom plates of this product develops heat and may give some undesirable damage to other unit.



14. Attachments

Do not use attachments not recommended by the product manufacturer as they may cause hazards.

15. Accessories

Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

16. Damage Requiring Service

Unplug this product from the outlet and refer servicing to qualified service personnel under the following conditions:

a) When the power-supply cord or plug is damaged.
b) If liquid has been spilled, or objects have fallen into the product.
c) If the product has been exposed to rain or water.
d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
e) If the product has been dropped or damaged in any way.
f) When the product exhibits a distinct change in performance - this indicates a need for service.

17. If glass components, including lens, should break, contact your dealer for repair service.

This product incorporates glass components, including a lens. If such parts break, please handle with care to avoid injury and contact your dealer for repair service. The broken pieces of glass may cause to injury.

18. Servicing

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

IMPORTANT SAFETY INSTRUCTIONS (continued)

19. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part.
Unauthorized substitutions may result in fire, electric shock, or other hazards.

20. Safety Check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

21. Do not leave thermalpaper documents or easily deformed items on top of the unit or near the air exhaust for long periods of time.

The heat from the unit could erase the information on the thermal paper, or cause deformation or warping.

22. Do not use the product in a closed installation state.

Do not place the product in a box or in any other closed installation state. Otherwise it may overheat. This could result in a risk of fire.

IMPORTANT PRECAUTIONS

Save Original Packing Materials

The original shipping carton and packing materials will come in handy if you ever have to ship your projector. For maximum protection, repack the set as it was originally packed at the factory.

Moisture Condensation

Never operate this unit immediately after moving it from a cold location to a warm location. When the unit is exposed to such a change in temperature, moisture may condense on the lens and the crucial internal parts. To prevent the unit from possible damage, do not use the unit for at least 2 hours when there is an extreme or sudden change in temperature.

Place and Manner of Installation

- Do not place in hot locations, such as near heating equipment. Doing so could cause malfunction, and shorten the life of the projector.
- Avoid locations with oil or cigarette smoke. Doing so will dirty the optical parts, shortening their lives, and darkening the screen.
- Using this instrument near a TV or radio may cause interference to the images or audio sound. If this happens, move it away from the TV or radio.
- Moving the projector from a low-temperature room to a high-temperature room may cause condensation on the lens or internal parts in the instrument. If you continue to use it in that situation, the malfunction may result. Ensure to wait until the condensation naturally disappears.
- Do not use the projector while holding it in your hands or lap.
- Do not use the projector near a power source and the like, or in locations like a ship or vehicle that are subject to vibration or shock. Doing so may lead to a malfunction or shorten service life.

Avoid Volatile Liquid

Do not use volatile liquids, such as an insect spray, near the unit. Do not leave rubber or plastic products touching the unit for a long time. They will leave marks on the finish.

If cleaning with a chemically saturated cloth, be sure to follow the product's precautions.

EXEMPTION CLAUSES

- Toshiba Corporation bears no responsibility in the case of damages arising from natural disaster such as earthquakes, lightning, etc., fire not liable to Toshiba Corporation, acts by third parties, other accidents, or use under abnormal conditions including erroneous or improper operation and other problems.
- Toshiba Corporation bears no responsibility for incidental damages (lost profit, work interruption, corruption or loss of the memory contents, etc.) arising from the use of or the inability to use this unit.
- Toshiba Corporation accepts no liability whatsoever for any damages arising from not having followed the descriptions in this Instruction Manual.
- Toshiba Corporation accepts no liability whatsoever for any damages arising from malfunctions arising from combination with equipment or software that is not related to Toshiba Corporation.

In the spaces provided below, record the Model and Serial No. located at the bottom of your projector.

Model No. _____ Serial No. _____

Retain this information for future reference.

OTHER CAUTIONS AND INFORMATIONS

Copyrights

Showing or transmitting commercial imaging software or broadcast or cable-broad casting programs with the purpose of other than the personal and private viewing, including modifying images using the freeze functions, or displaying with the varying aspect ratio of the images, could violate the direct or indirect copyrights of the imaging software or broadcast program, etc., if done without first consulting with the copyright holder. For this reason, please take appropriate measures before performing one of the actions listed above, including obtaining a license from the copyright holder.

Disposal

Following information is only for EU-member states:

The use of the symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

This product contains substances which are harmful to humans and the environment.

Trademarks

- VGA, SVGA, XGA, SXGA, UXGA are trademarks or registered trademarks of International Business Machines Corporation.
- Digital Light Processing, Digital Micromirror Device and DMD are trademarks of Texas Instruments.
- Macintosh is a registered trademark of Apple Computer, Inc.
- Windows is a registered trademark of Microsoft Corporation in the U.S. and other countries.
- Adobe is a registered trademark and Acrobat Reader is a trademark of Adobe Systems Incorporated.

Notational Conventions Used in This Manual

- References to pages with related information are annotated as follows. For example, if making a reference to p.35:
- The illustrations in this document are for reference purposes only and may not reflect your package exactly.

BATTERIES

The Battery Type

For remote control: Be sure to use the lithium CR2025 battery.
For Projector: Be sure to use TLPBP1 battery pack.

Caution

- Never shock the battery pack by dropping or throwing it.
- Never throw the battery pack into a fire, as this could cause the battery pack to explode.
- Never disassemble the battery pack, as this could cause leakage of alkaline solution or other electrolytic substance.
- Never short-circuit the battery pack by either accidentally or intentionally bringing the terminals in contact with another metal object. Never carry the battery pack or store it together with any other metal object such as necklace or hairpin. This could cause personal serious injury or a fire, and could also damage the battery pack. Never expose the terminals of the battery pack to any other metal object. Wrap the battery pack or place it in a protective plastic bag, whenever transporting it.
- Never drive a nail into the battery pack.
- Never strike the battery pack with a hummer.
- Never step or tread on the battery pack.
- Never immerse or expose the battery pack to any liquid.
- If you ever detect the emission of an extraordinary odor, excessive heat, discoloration, or deformation of the battery pack, remove it from the projector after confirming safety and discontinue use of it.
- Keep the battery pack away from heat or fire, if you detect an odor emission or leakage of alkaline solution or other electrolytic substance.
- Always keep the battery pack out of reach of infants or small children.
- Never expose the battery pack to direct sunlight. Never store or use the battery pack in a locked and unventilated vehicle, where excessive internal temperatures may be encountered.
- If the liquid contained within the battery pack leaks, use a large amount of water with a soap and immediately wash off any liquid which may have contacted any part of the body.

Notes

- Dispose of battery in a designated disposal area.
- Attention should be drawn to the environmental aspects of battery disposal.
- If the remote control does not operate correctly, or if the operating range becomes reduced, replace the battery with new one.
- If the battery is dead or if you will not be using the remote control for a long time, remove the battery to prevent battery acid from leaking into the battery compartment.

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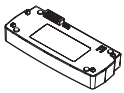
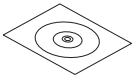
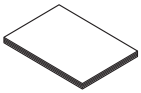
Checking the package contents

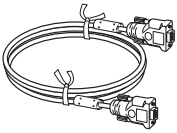
Please make sure that the following items are included in the box, along with the main unit. If any item is missing, please contact the store immediately where you purchased the product.

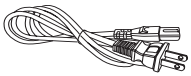
(1)

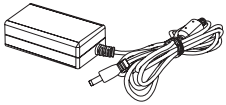
(2) 

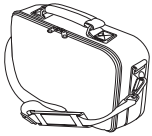
(3) 

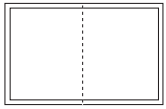
(4) 

(5) 

(6) 

(7) 

(8) 

(9) 

- ☐ (1) Remote control
- ☐ (2) Battery pack
- ☐ (3) CD-ROM
- ☐ (4) Owner's Manual
- ☐ (5) RGB cable (1.5m)
- ☐ (6) Power cord (See note)
- ☐ (7) Adaptor
- ☐ (8) Carrying bag
- ☐ (9) Screen

Note
The shape and number of supplied power cords vary depending on the product destination.

◆ The Supplied CD-ROM

The supplied CD-ROM contains an owner's manual and Acrobat® Reader™ to view the manual.

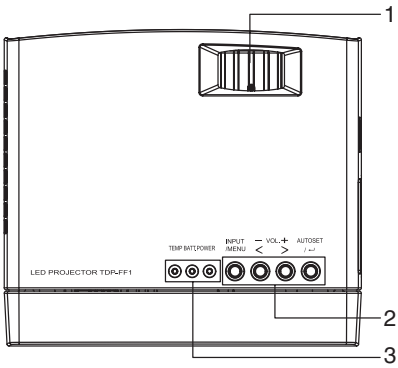
■ Installing Acrobat® Reader™

Windows®: Run the CD-ROM, select the **Reader/English** folder, and run **ar500enu.exe.** Follow the on-screen instructions.
Macintosh: Run the CD-ROM, select the **Reader/English** folder, and run **Reader Installer.** Follow the on-screen instructions to install the software.

■ Viewing the manual

Run the CD-ROM and double-click on **Start.pdf**. Acrobat® Reader™ launches, and the menu screen of the Owner's manual appears. Click on your language. The Owner's Manual cover and list of bookmarks appear. Click on a bookmark title to view that section of the manual. Click on p. to view a reference page with related information. See the Help menu for more information about Acrobat® Reader™.

Main unit components



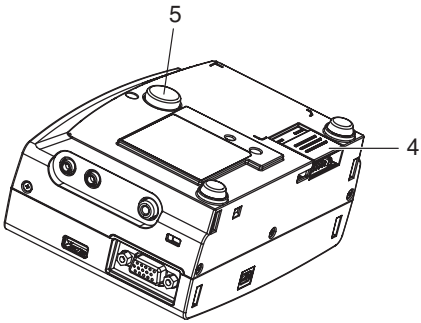
Top

1. Focus Ring Adjusts the focus

2. Control Panel Operates the projector

3. LED indicators Indicates projector status

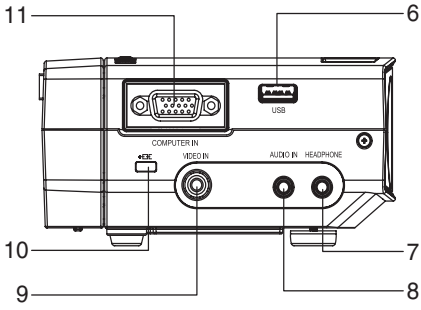
- **TEMP** Lights when temperature too high
- **BATT.** Display battery condition
- **POWER** Lights when power on



Bottom

4. Battery connector cover Protect battery connector

5. Foot adjuster Adjust the vertical projection angle



Left

6. USB port Plug in USB memory

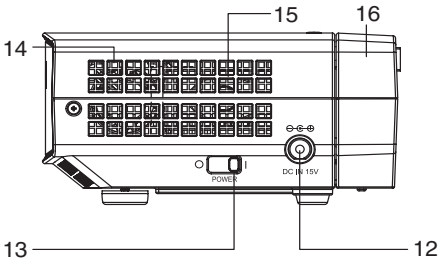
7. Headphone Outputs audio signals

8. Audio in Inputs audio signals

9. Video in Inputs video signals from video equipment

10. Antitheft lock hole For security lock

11. Computer in Inputs analog RGB signal from computer, or component video signal from video equipment.



Right

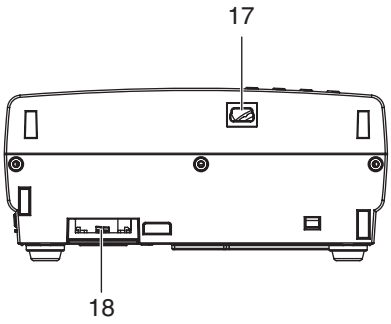
12. DC input Connect the AC adaptor

13. Power switch Turn on/off the projector

14. Ventilator Air ventilator for cooling inside

15. Speaker Ouputs sounds from audio in terminals

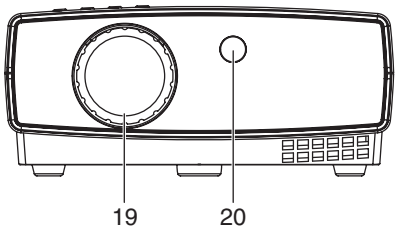
16. Battery pack Li-ion battery TLPBP1



Rear

17. Service port For service only

18. Battery power in connector For battery connection



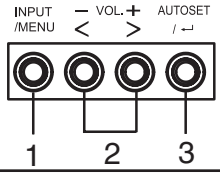
Front

19. Lens Projects expanded image

20. Infrared remote sensor Sense commands from the remote control

Control keypad and functions

Normal mode: with COMPUTER or VIDEO INPUTS
File view mode: with USB INPUT for file/directory selection.
Slideshow mode: with USB INPUT.



1. Input/Menu

Normal mode:
- Change input source when pressing for less than 1 seconds.
- Display menu system when pressing for longer than 1 seconds.
- Move to upper level in menu system.

File view mode:
- Same as Normal mode.

Slideshow mode:
- Changes input source when pushing shorter than 1 seconds.
- Exits slideshow and go to file view mode (pressing for longer than 1 seconds.)

  Sub-menu “Stop slideshow?” is shown
  - ➢ Select Yes: go to file view mode.
  - ➢ Select No: display screen menu system.

2. – <, > +

Normal mode:
- When OSD is not displayed:
  - ➢ Volume control (Computer, Video input)
- When OSD is displayed:
  - ➢ Choose menu item

File view mode:
- When OSD is not displayed:
  - ➢ Choose file or directory
- When OSD is displayed:
  - ➢ Choose menu item

Slideshow mode:
- Show previous/next slide

3. AUTOSET / ↵

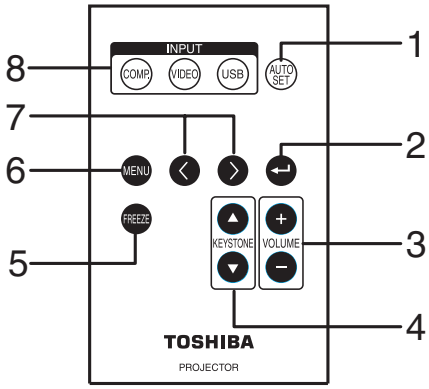
Normal mode:
- When OSD is not displayed:
  - ➢ AUTOSET (RGB signal)
- When OSD is displayed:
  - ➢ Confirm screen menu selections

File view mode:
- When OSD is not displayed:
  - ➢ Highlight on a file: Start the slideshow
  - ➢ Highlight on a directory: Change the directory
- When OSD is displayed:
  - ➢ Confirm screen menu selections

Slideshow mode:
- To pause or re-start the slide show

Remote control keypad and functions

■ Remote Control



1. AUTOSET	Auto set p.27
2. ↵	**Normal mode:** • When OSD is not displayed: No action • When OSD is displayed: Confirm screen menu selections **File view mode:** • When OSD is not displayed: ➢ Highlight on a file: Start the slideshow ➢ Highlight on a directory: Change the directory • When OSD is displayed: ➢ Confirm screen menu selections **Slideshow mode:** • To pause or re-start the slide show
3. Volume +/-	Adjust volume
4. Keystone	Correct image distortion
5. Freeze	Pause image (Computer, Video input only)
6. Menu	Display menu system/move to upper level in menu system
7. ‹ / ›	**Normal mode:** • When OSD is not displayed: No action • When OSD is displayed: Choose menu item **File view mode:** • When OSD is not displayed: ➢ Choose file or directory • When OSD is displayed: ➢ Select screen menu items **Slideshow mode:** • Show previous/next slide
8. Input	Select input sources

Using the battery pack with the projector

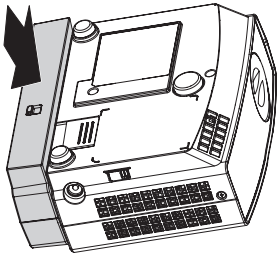
The following procedures are for the installation of the battery pack with the projector.

Installing the battery

① Turn off the power switch and disconnect the AC adaptor.

② Open the battery connector cover.

③ Plug in the battery pack.



④ Press down the battery pack firmly until it clicks into place.

⑤ Switch the power button to turn on the projector.

Remove the battery

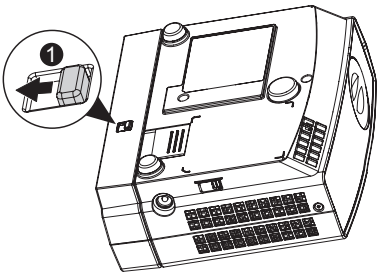
① Turn off the power switch and disconnect the AC adaptor.

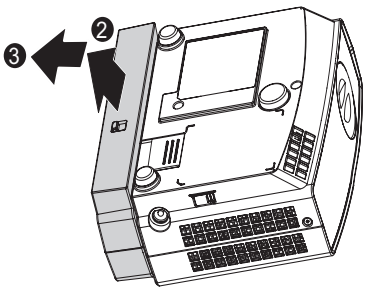
② Move the button to “unlock” and keep it.

③ Lift the battery pack.

④ Remove the battery pack.

⑤ Close the battery connector cover.



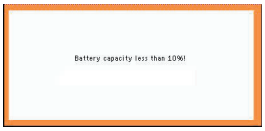


Charge the battery

The battery pack can be charged with the projector when the AC adaptor is connected. It can be also charged when the projector is turned on. It takes 3 to 4 hours to charge the battery completely.

Notes

- Remove the battery if the projector is not in use, otherwise the battery will gradually discharge.
- When the battery capacity become less then 10%, the following message appears:
  The battery capacity is less than 10%.



- Press any key to make the warning message disappear.
- When the projector runs out of the battery, it shuts down automatically after showing the message “The projector is shutting down”.
- The projector will work for approximate 2 hours with full charged battery at room temperature (25°C).
- The battery is consumables, it can be recharged approximately 500 times.
- It is recommended that you replace to a new battery when the operation time with the battery becomes significantly short. (contact reseller for details)
- Do not touch the battery connector.
- Be sure to use TLPBP1 battery pack.
- Store the battery in an environment without moisture. Avoid very high and very low temperatures.
- To protect the environment, dispose of the battery safely. Take the battery to a rechargeable battery recycling center. Before taking it to the center, stick insulating tape to the terminal.

Specifications for TOSHIBA Li-ion battery

- Model name: TLPBP1
- Output voltage: 7.4V
- Capacity: 4400mAh
- Operating temperature: 5°~35°C (41°~95°F)
- Dimensions: 138(W)x56(H)x26(D) mm
- Weight: 0.25kg

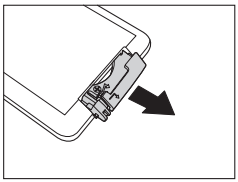
⚠ Warning

- Always observe the instructions listed in IMPORTANT SAFETY INSTRUCTIONS when handling the battery.

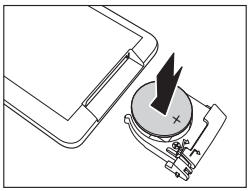
Using the remote control

Changing the new lithium battery

① **Remove the battery compartment.**

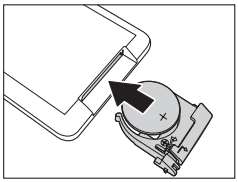


② **Replace the lithium battery.**



Be sure to align the battery according to the polarity.

③ **Insert the battery compartment.**



Operating the remote control

Turn on the projector and then the remote control can be used to adjust the OSD, volume, and input select.

Note

- The remote control is shipped with a plastic sheet between the battery and its contact. Pull on the sheet to remove it from the remote control.
- Remove the battery from the remote control when it will not be used for an extended period.

Battery

- Before using the battery, please refer to the notes on p.12.
- If the remote control stops working, or if its range decreases, replace the battery with new one.

The remote control

- The remote control may fail to operate if the infrared remote sensor is exposed to bright sunlight or fluorescent lighting.
- Do not drop or bang it.
- Do not leave it in hot or humid locations.
- Do not get it wet or place on top of wet objects.
- Do not take it apart.
- In rare cases, ambient conditions could impede the operation of the remote control. If this happens, point the remote control at the main unit again, and repeat the operation.

Placement

Placement Styles

The factory setting is “floor-mounted front projection.” Set the [**Projection mode**] in the **Default setting menu** p.38, in accordance with your needs.

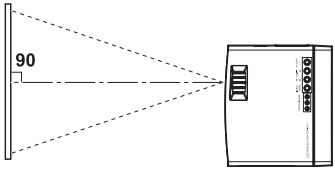
⚠ Warning

- Always observe the instructions listed in IMPORTANT SAFETY INSTRUCTIONS when placing the unit.

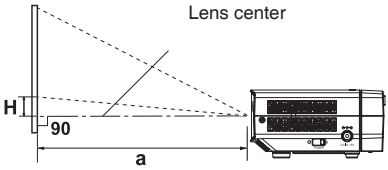
Projection Distance and Size

Use the figures, tables, and formulas below to determine the projection size and projection distance. (Projection sizes are approximate values for full-size picture with no keystone adjustment.)

Screen **Top view**



Side view



$$\textbf{a (min length)} = \frac{\textbf{projection size (inches)}}{\textbf{27.3403}}$$

FF1 uses a fixed lens.

projection size (inches)	projection distance (m)	height (H) (cm)
11	0.40	1.7
17	0.62	2.6
25	0.91	3.8
30	1.10	4.6
35	1.28	5.3
40	1.46	6.1
45	1.65	6.9
50	1.83	7.6
60	2.19	9.1
68	2.49	10.4

Note: 110% offset condition

a is the distance (m) between the lens and the screen, and corresponds to a range of 0.4 m to 2.5 m. **H** is the height from the image bottom to the center of the lens.

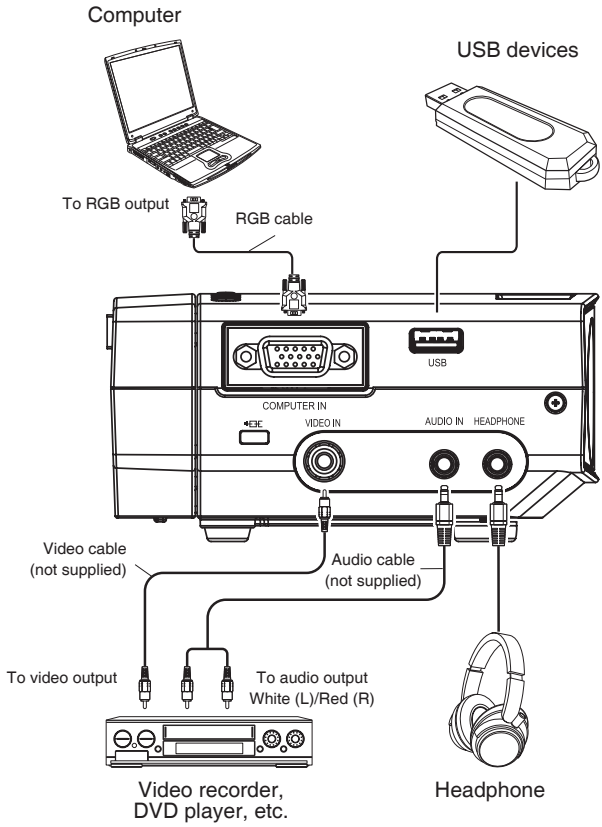
Connection

Before connection

- Read the owner's manual of the device you are connecting to the projector.
- Some types of computer cannot be used or connected to this projector.
- Turn off the power of both devices before connecting.
- The figures are sample connections.

Notes

- Moving pictures played back on computers using DVD software may appear unnatural if it is projected with this projector, but it is not a malfunction.
- When a HEADPHONE terminal is used, sound is not output from the projector speaker.
- The output volume of HEADPHONE terminal can be adjusted with the **VOL** button.



Turning the power on and off

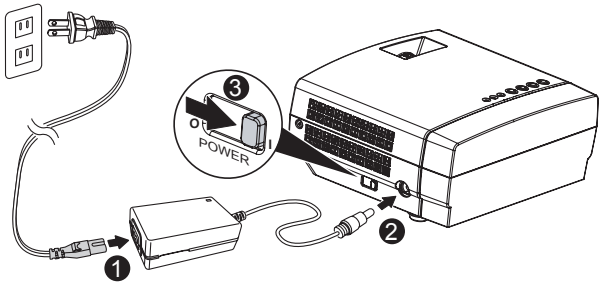
Connecting the power cord

❶ Plug the power cord into the adaptor.

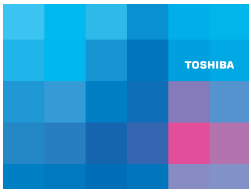
❷ Insert the power cord connector into the DC IN socket of the projector or install the battery pack.

❸ Switching the power on (I)

Switch the power button to turn on the projector, then the power indicator on the LED lights green, and the start-up screen appears.



Start-up screen



⚠ CAUTION

- Do not block the air intake or exhaust. Doing so could cause a fire due to internal overheating.
- Do not look into the lens while the projector is on. The light from the projector may cause damage to your eyes or sight.

Note

- The start-up screen will disappear after a moment. You can also configure the start-up screen not to appear via the **Default setting menu** p.38.

❹ Switching the power off (O)

Switch the power off will shut off the power immediately.

Basic operations

❶ Turn on the power.

Turn on the power by following the instructions in “**Turning the power on (I)**” p.25.

❷ Activate the connected device.

Turn on and start the connected device such as a computer.

❸ Press the INPUT button.

See remote control section on p.19.

❹ Adjust the focus.

Use the focus ring to adjust the focus.

❺ Adjust the vertical projection angle.

Rotate the foot adjuster to adjust the vertical position of the projection image. See **foot adjuster** on p.16.

❻ Adjust the volume.

Adjust the volume from the control panel or remote control.

Notes

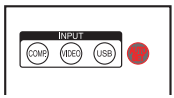
- The DMD™ is made using extremely advanced technology, but there may be black spots (pixels that do not light) or bright spots (pixels that are constantly lit) on the panel. Please note that these are not malfunctions.
- Although this projector supports a wide range of RGB signals p.44, any signal formats not matched to native resolution of this projector (SVGA) will be expanded or shrunk, which will affect image quality slightly. To view high-quality images, setting the computer’s external output to SVGA is recommended.
- With some models of computer having LCD displays or the like, displaying images simultaneously on the projector and the monitor’s display may prevent the images from displaying properly. If this happens, turn off the computer’s LCD display. For information on how to turn off the LCD display, see the owner’s manual of your computer.
- If a signal not supported by the projector is input, the “Unsupport signal” will appear.
- If an unavailable operation button is pressed, the icon will appear.
- The factory setting for the OSD language is “English”, other languages can be selected in the **Default setting menu**. p.38

Using handy features

Using auto setting (Only for computer input)

This function sets up the projector to the optimum state such as sampling phase, frequency and screen position, for each type of the input signal by using simple operations.

Remote Control



Press the AUTOSET button on the remote control.

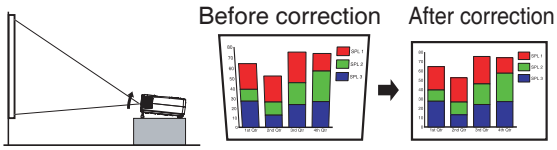
For computer input, the AUTO icon will appear during processing.
You can also enter **AUTOSET /↵** button on the projector.

Note

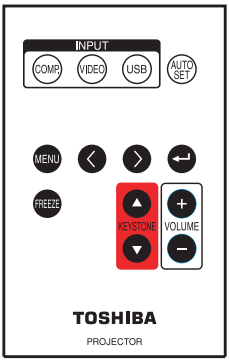
- The image may not be projected or auto adjustment/setting may not be performed correctly for input signals other than those supported by the projector p.45, p.46.

Correcting the keystone distortion

When the projector placement angle against the screen is changed while projecting the image, the picture will undergo keystone (trapezoidal) distortion.
This projector can correct for this keystone distortion.



Remote Control



Press the remote control's KEYSTONE ▲ or ▼button.

You can also select [**Keystone**] in the **Image adjustment menu** p.36.

Using handy features (continued)

Freezing the image (Freeze)

Projected image can be frozen. This function is used to pause video during a presentation, etc.

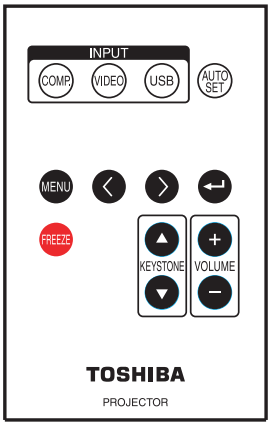
Press the FREEZE button on the remote control.

The picture pauses. (The Freeze function is released when pressing the **FREEZE** button again.)

Notes

- The icon will appear while freeze is in effect.
- Other operation will also release the freeze.
- Although an image is frozen on the projector, the pictures are running on the video or other equipment.
- If you use this function on commercial video software, broadcast or cable-broadcasting except for the purpose of your private viewing and listening, it may infringe the copyright protected by the copyright laws.
- Freeze function is not available on USB input.

Remote Control



Using USB Memory

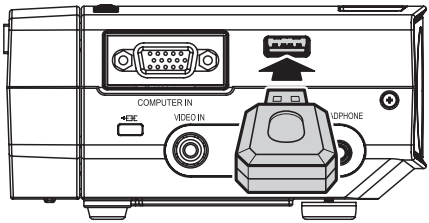
Connect the USB memory to the projector and select USB input

① Turn off the power switch.

② Plug the USB memory to the USB port.

③ Turn on the power switch.

④ Press remote control's [USB] key to select USB input.



You can change input as well by pressing [INPUT/MENU] key on the projector for a short time.

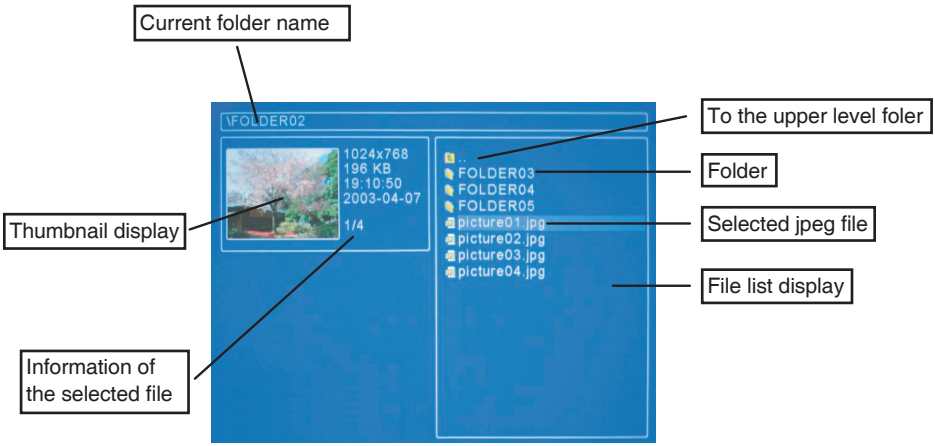
Notes

1. USB HDD or hub is not supported.
2. For other limitations of the USB function, please see p.45 for detail.

File View Mode

① When Quick Start sets to "On" and there is jepg file(s) in the root folder of the USB memory, the slideshow starts automatically. Please see p.38 for detail information.

② When Quick Start sets to "Off" or there is no jepg file in the root folder of the USB memory, the file list appears as below (file view mode).



Using USB Memory (continued)

Folders and jpeg files in current folder are displayed in file list display as following.

folder name --- folder

file name.jpg --- Jpeg file

Use ◁ or ▷ to change the selected file or folder.

Select a folder and press ↵, the files in the folder start displaying .

Select a jpeg file and press ↵, the slideshow starts from the selected file. p.38

Select and press ↵, and the files in the folder start displaying.

When there are too many files or folders to be displayed in one page, the ▲ and ▼ icons appear on the top and bottom of file list.

• To display the previous page, select ▲ and press ↵.

• To display the next page, select ▼ and press ↵.

The thumbnail of the selected file displays with the following information,

Picture resolution

File size

Time & Date

Current file number / Jpeg files number in the current folder.

Notes

1. If there are many files in the folder, it takes long time to show the file names.
2. 2-byte characters are not supported and will be displayed as “?”.
3. Only folders or jpeg files can be displayed in the file list, other file formats are not displayed.
4. For other limitations of the USB function, see p.45 for detail information.

Slideshow

① Start slideshow

• Quick Start
When the projector sets to the USB input and 'Quick start' to 'on' p.38, the slideshow starts with jpeg files in the root folder of the USB memory.

• Start from file view mode
When a jpeg file is selected in the file view mode, slideshow starts from the selected jpeg file.

② Slideshow operation

In the slideshow mode, jpeg files display on the screen fully. To change the files, select ◀ or ▶. The picture displayed in the same order as displayed in the file view mode.

It takes several seconds to display the next slide. ⧗ appears when reading the next file. The reading time varies and depends on the file size.

When 'Slideshow' sets to '**Auto**' in the **Default setting menu** p.38, the slide changed automatically when displaying. Display time also can be changed in 'Interval' setting in the **Default setting menu** p.38. Interval time doesn't include reading time of the next file, so it takes longer to display the next picture than the setting. Slideshow can be paused by pressing ↵ even in auto mode. Pause can be cancelled by pressing ↵. again.

After showing the last jpeg picture, ▶| will be shown in the picture. This indicates the end of the slideshow. Press ▶ or ↵, the slideshow ends and the projector enters in the file view mode.

When 'slideshow loop' sets to 'On', the slideshow starts from the first file again after displaying the last file.

When jpeg file has a error or unsupported format, ? appears on the current picture and the projector automatically starts to read the next jpeg file.

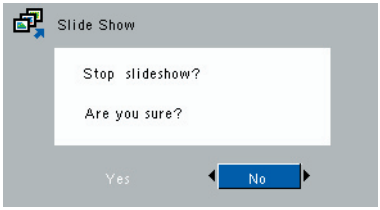
Picture transition effect is available in the slideshow. The following four modes can be selected in 'Display effect' in the default setting menu.

- None: displays screen without special effects.
- Dissolve: adds dissolve effect to screen.
- Wipe: screen scrolls in from the top or bottom.
- Cover: screen overlaps previous image.

Using USB Memory (continued)

③ Exit Slideshow / Change slideshow settings

Press [Menu/input] key for longer than 1 second during the slideshow, and the following message appears.



Use ◀ or ▶ to select [Yes] and press ↵ , the slideshow ends and the projector switches to the file view mode.

Use ◀ or ▶ to select [No] and press ↵, Menu OSD shows on the screen. Change the settings through menu system including USB slideshow setting.

About USB memory function

① The USB terminal

The USB terminal of the projector is USB 1.1 compliant, which can connect with a USB memory.

② USB memory

- 2GB limited USB memory size.
- Do not support USB HDD (Hard disk).
- Do not support USB hub.

③ USB devices whose operation has been verified.

TOSHIBA does not guarantee the operation of all listed USB devices.

TOSHIBA

- U2A series
- U2B series

Sandisk

- SDCZ2 series

④ Backing up the data

Toshiba recommends that you back up the data saved in the memory PC card, the USB memory, and in the memory card before use. (Toshiba assumes no liability for losses incurred by data lost through the use of this projector.)

⑤ JPEG files

- Supported file extensions are .jpg and .JPG.
- Folders are limited to 21 levels.
- The number of folders in each folder is limited to 127.
- The number of files in each folder is limited to 512.
- Some JPEG files such as interlaced jpeg are not supported.

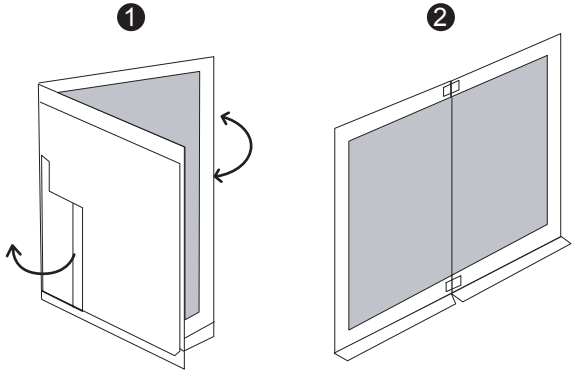
Placement of the projection screen

Using the screen

Please follow the steps below to set up the screen.

① Open the screen fully, and pull out the stand on the back of the screen and fasten the fastener.

② Fold out the bottom of the screen and set up the screen vertically. The image can be projected fully on the attached screen when the distance between the projector and the screen is about 80 cm.



Notes

- Place the projector and the screen on a flat place; assure they are stable.
- Image quality can be changed due to the viewing angle to the screen.
- The surface of the screen is covered with a special coating. Do not stain it, scratch it or write anything on it.

Using the menus

You can call up on-screen menus, and make adjustments and settings using the operation buttons on the control panel (main unit side) and remote control. p.18 p.19

How to use the menus

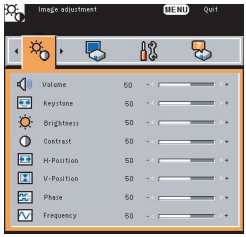
The menu shown below is for operation instructions purposes and might differ from the actual display.

1. Press the MENU button for longer than 1 seconds. The **Image adjustment** menu appears.

2. Select a Category

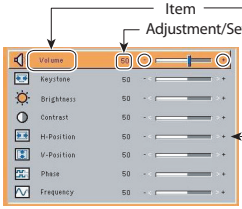
Select a category by using ◀ ▶.
There are following 4 categories.

- Image adjustment menu
- Display setting menu
- Default setting menu
- Status display menu

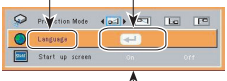


Displays the current adjustments and settings of the selected category.
Item shown with gray cannot be adjusted with the current input source.

3. Adjustments & Settings ▼ Press the ↵ button.



Push ◀ ▶ key to select item and press ↵ button.



These marks signify that there are options.
Press ↵ to display a list of options.

The figure shows displays given for operation instructions purposes. As the display may differ depending on the item, use the following pages as a reference.

5. End
Press the MENU button
The menu disappears.

4. Back
MENU button

Operations

Using the menus (continued)

Image adjustment menu

Use this menu to set or adjust image-related items. Items that can be set or adjusted are marked with “Yes”, and those that cannot are marked with “No”. (When an item is masked, it indicates that you cannot select for the current input.)

Item ◀ ▶	Description	Computer (D-SUB)		Video	USB
		RGB	$Y/P_B/P_R$		
Volume	Decrease or increase the Volume with ◀ ▶.	Yes	Yes	Yes	Yes
Keystone	Correct the keystone (trapezoid) distortion of the screen. Screen shrinking ◀ ▶ Screen shrinking downward upward	Yes	Yes	Yes	Yes
Brightness	Adjust the brightness of the image. Darker ◀ ▶ Brighter	Yes	Yes	Yes	Yes
Contrast	Adjust the image contrast. Lower ◀ ▶ Higher	Yes	Yes	Yes	Yes
H-position	Adjust the horizontal position of the image. Move left ◀ ▶ Move right	Yes	No	No	No
V-position	Adjust the vertical position of the image. Move down ◀ ▶ Move up	Yes	No	No	No
Phase	Adjust with ◀ ▶ to eliminate flicker.	Yes	No	No	No
Frequency	Adjust with ◀ ▶ to eliminate periodic patterns and flickering when many vertical lines appear on the screen.	Yes	No	No	No
Color	Adjust with ◀ ▶ to select the color. Lighter ◀ ▶ Deeper	No	Yes	Yes	No
Tint	Adjust the image to an appropriate tint. Reddish ◀ ▶ Greenish	No	Yes	Yes	No
Sharpness	Adjust the sharpness of the image. Softer ◀ ▶ Sharper	No	Yes	Yes	No

*1: [**Tint**] can be displayed and adjusted only when the video signal is [**NTSC**] or [**NTSC4.43**].

Display setting menu

Use this menu to set screen display-related items.
(The items in gray color cannot be set with the current input selection.)

Item ◀ ▶	Description
R Level	Adjust the red color by press ◀ or ▶.
G Level	Adjust the green color by press ◀ or ▶.
B Level	Adjust the blue color by press ◀ or ▶.
Screen size	Full (Full) < > Wide (Wide) Full (Full): Display with 800 × 600 resolution Wide (Wide): Wide-screen display
16:9 Position	Adjust the vertical position of 16:9 image **Lower ◀ ▶ Higher**
Background	Screen to display when there is no input signal (Logo) TOSHIBA < > (Blue) < > (Black)
Icon	Display icons as function guides **On ◀ ▶ Off**
Reset all	Press Enter ↵, resets all adjustments and settings to their factory settings. **Yes ◀ ▶ No**

Note

- If you use the screen size setting function on commercial video software, broadcast or cable-broadcasting programs to display images with the varying aspect ratio except for the purpose of your private viewing and listening, it may infringe the copyright protected by the copyright laws.

Using the menus (continued)

Default setting menu

Item ◀ ▶	Description	RGB	$Y/P_B/P_R$	Video	USB
Quick Start	Set to “On”, then plug in the USB device will enter the Slideshow mode. Set to “Off”, then plug in the USB device will enter the File view mode.	No	No	No	Yes
Slideshow	Set slideshow mode Auto ◀ ▶ Manual	No	No	No	Yes
Interval	Adjust the interval time in Slideshow auto mode Short ◀ ▶ Long	No	No	No	Yes
Slideshow loop	Set loop function of the slideshow On ◀ ▶ Off	No	No	No	Yes
Display effect	Set transition effect of the slideshow. [↵ : Enter setting mode] → [◀ ▶ :Selection] → [↵ : Apply] None/Wipe/Dissolve/Cover [Notes]	No	No	No	Yes
Projection mode	Sets projection mode in accordance with Placement Styles. p.23 (Standard) (Mounted from ceiling) (Rear) (Rear mounted from ceiling)	Yes	Yes	Yes	Yes
Language	Select one of the languages below for the menu and messages [↵ : Enter setting mode] → [◀ ▶ : Selection] → [↵ : Apply] **English/Deutsch/Français/Italiano/Español/**中文(简体字)**/日本語/Svenska**.	Yes	Yes	Yes	Yes
Start-up screen	Display start-up screen when power is turned on **On ◀ ▶ Off**	Yes	Yes	Yes	Yes

Notes

- None: displays screen without special effects.
- Wipe: screen scrolls in from the top or bottom.
- Dissolve: adds dissolve effect to screen.
- Cover: screen overlaps previous image.

Displaying Information (Status display)

This displays information about the input signal, battery life time, and so on.

"Yes": displayed, "No": not displayed

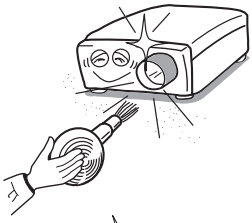
Item ◀ ▶	Description	RGB	Y/P_B/P_R	Video	USB
Input	Input source name	Yes	Yes	Yes	Yes
Resolution	Resolution (in dots)	Yes	No	No	No
Video mode	Display color method of video signal	No	Yes	Yes	No
Battery info	Display the battery remains	Yes	Yes	Yes	Yes
Version	Firmware version [Note]	Yes	Yes	Yes	Yes

Notes

1. The mode of supported RGB signals p.44 is shown.
2. [Firmware **version**] shows the version of the projector's internal control program. This version is referred to for customer service, etc.

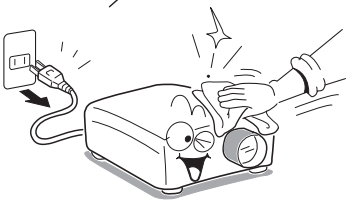
Lens and main unit cleaning

Lens cleaning



- Clean the lens with a commercially available blower and/or lens cleaner.
- The lens is easily scratched, so do not rub it with hard objects, or strike it.

Main unit cleaning



- Clean the main unit after unplugging the power cord.
- Wipe dirt off the main unit gently with a soft cloth.
- Do not wipe the main unit with a damp cloth. Doing so may allow water to get inside, resulting in an electric shock or failure.
- Do not use benzene, thinner or similar substances, like as they may deform or discolor the unit, or damage the paint surface.
- When using a chemically treated cloth, follow the precautions included with the cloth.

Before calling service personnel

If you think something is wrong, check the followings before contacting customer service.

If This Happens	Check
No power	• Is the power cord or battery pack plugged in? Is it connected to the projector?
Power is lost during use	• Is the ambient temperature high? • Is the air intake or air exhaust blocked?
No picture	• Is the projector turned on? • Are the connections set up correctly? p.24 • Are all the connected devices functioning properly?
No audio	• Are the connections set up correctly? p.24 • Are all the connected devices functioning properly?
Picture not displayed correctly	• Is the input signal supported by the projector? p.45, p.46 • Is something generating an abnormal video signal, for instance the video tape?
Picture blurred **Part of picture out of focus**	• Is the lens dirty? p.40 • Is the lens focus adjusted optimally? p.26 • Is the projection distance within the projector's supported range? p.23 • Is the projector's screen placement angle tilted too far? p.23 • Are the sharpness or sampling phase adjustments off?
Colors too light **Bad shading**	• Are the color, tint, R-level, G-level, or B-level adjustments off? p.37 • Is the screen dirty?
Remote control doesn't work	• Is the remote control's battery exhausted? • Is the battery inserted into the remote control correctly? p.22 • Is the remote control being used within the effective range? p.22 • Are there any obstructions between the remote control and projector? • Are there any fluorescent or other bright lights shining at the projector's infrared remote sensor?

Indicators

State/ Problems	Icon/ Messages	Close Messages	LED Indicators	
			Temp	Batt
USB current over Note 1		Press any key		
USB disk error				
JPEG error Note 2				
Battery low (< 10%)	**Battery capacity less than 10%!**	Press any key, or charging starts.		F2
Battery exhausted	The projector is shutting down			F2
Battery error				F5
Battery overheats			F2	F2
Battery charging	Start charging			On
Battery full	Stop charging			Off
Environment overheat			F2	
			On	
Fan lock				
LED overheat			On	
System error			F5	F5

Note 1: The USB icon will be shown when selected.
Note 2: Display in file view mode under thumbnail mode.

F2: Flash 2Hz
F5: Flash 5Hz

Specifications

List of general specifications

Item		Specification
Consumption Power		35W
Weight (including the battery)		0.75kg (battery: 0.25kg)
External Dimensions (including protruding parts)		140 x 62 x 124 (W x H x D, mm)
Cabinet material		Mg Alloy
Conditions for usage environment		Operating temp: 5°C to 35°C; relative humidity: 80% max. Storage temp: -20°C to 60°C; relative humidity: 80% max.
Display device		1 chip DMD™
Picture elements		True 800 × 600 resolution, 16.7M True colors
Lens		f=2.6mm (fixed)
Light source		LED light module (10W)
Projection screen size		11-68 inches
Projection distance		0.4-2.5m
Speaker		0.5W
Connection terminal	COMPUTER(Y/PB/PR) IN terminal	Mini D sub 15 pin Analog RGB / Y/PB/PR (dual use)
	VIDEO terminal	VIDEO: RCA Pin Jack
		AUDIO 3.5mm stereo mini-jack

Notes

- This model complies with the above specifications.
- Designs and specifications are subject to change without notice.
- This model may not be compatible with features and/or specifications that may be added in the future.

Specifications (continued)

List of supported signals (RGB signals)

This projector supports the following RGB signals. Note, however, that depending on the computer model, the screen may show flicker or streaking. Please adjust the projector if this happens.

Compatibility	Resolution	Refresh rate [Hz]	H-frequency [KHz]
VGA	640x350	70	31.5
	640x350	85	37.9
	640x400	85	37.9
	640x480	60	31.5
	640x480	72	37.9
	640x480	75	37.5
	640x480	85	43.3
	720x400	70	31.5
	720x400	85	37.9
SVGA	800x600	56	35.2
	800x600	60	37.9
	800x600	72	48.1
	800x600	75	46.9
	800x600	85	53.7
XGA	1024x768	60	48.4
	1024x768	70	56.5
	1024x768	75	60.0
	1024x768	85	68.7
SXGA	1152x864	70	63.8
	1152x864	75	67.5
	1152x864	85	77.1
	1280x1024	60	63.98
	1280x1024	75	79.98
SXGA+	1400x1050	60	63.98
UXGA	1600x1200	60	75
MAC LC 13”	640x480	66.66	34.98
MAC II 13”	640x480	66.68	35
MAC 16”	832x624	74.55	49.725
MAC 19”	1024x765	75	60.24
MAC	1152x870	75.05	68.68
MAC G4	640x480	60	31.35
i Mac DV	1024x765	75	60
i Mac DV	1152x870	75	68.49
i Mac DV	1280x960	75	75

Note

- Signals which resolution exceeds the native resolution (800 × 600 pixels) will be compressed. For this reason, some information may be lost, or image quality may be affected.

List of supported signals (Y/P_B/P_R signals)

Signal format	fh(kHz)	fv(Hz)
* 480i(525i)@60Hz	15.73	59.94
480p(525p)@60Hz	31.47	59.94
* 576i(625i)@50Hz	15.63	50.00
576p(625p)@50Hz	31.25	50.00
720p(750p)@60Hz	45.00	60.00
720p(750p)@50Hz	37.50	50.00
1080i(1125i)@60Hz	33.75	60.00
1080i(1125i)@50Hz	28.13	50.00

List of supported signals (Video signals)

Video mode	fh(kHz)	fv(Hz)	fsc(MHz)
NTSC	15.73	60	3.58
PAL	15.63	50	4.43
SECAM	15.63	50	4.25 or 4.41
PAL-M	15.73	60	3.58
PAL-N	15.63	50	3.58
PAL-60	15.73	60	4.43
NTSC4.43	15.73	60	4.43

List of USB function limitations

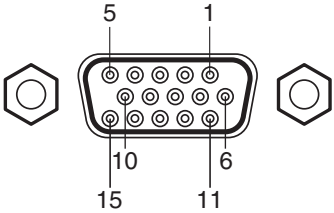
USB media size	Limited to 2G bytes.
Media format	Support FAT12, FAT16 and FAT32.
Folder nesting levels	Limited to 21 folder nesting levels.
Number of files	Limited to 512 files in each folder level.
Number of folders	Limited to 127 folders in each folder level.
JPEG file size	Under 4MB
Resolution	64x64 ~ 4096x4096
JPEG file format	Support stand and non-standard JPEG. Progressive JPEG is not supported.

Notes

- Compatibility problem with some USB devices.
- Folder/ File name length: Limited to 100 bytes
- Folder/ File sorting: Sort by name.

Specifications (continued)

Pin assignment of COMPUTER IN terminals



Mini D sub 15 Pin connector

Input Signal

- RGB input
  RGB signals: 0.7V (p-p) 75 Ω
  Horizontal sync signal: TTL level (Pos/neg polarity)
  Vertical sync signal: TTL level (Pos/neg polarity)
- $Y/P_B/P_R$ input
  Y signal: 1.0V (p-p) 75 Ω
  P_B/P_R signals: 0.7V (p-p) 75 Ω

Pin No.	Pin description	
	During RGB input	During Y/PB/PR input
1	Video signal (R)	Color difference signal (P_R)
2	Video signal (G)	Luminance signal (Y)
3	Video signal (B)	Color difference signal (P_B)
4	N.C	*
5	GND	*
6	GND (R)	GND (P_R)
7	GND (G)	GND (Y)
8	GND (B)	GND (P_B)
9	+5V	*
10	GND	*
11	N.C	*
12	SDA	*
13	Horizontal sync signal	*
14	Vertical sync signal	*
15	SCL	*

* Do not connect anything.

TOSHIBA CORPORATION